

### **REMARKS/ARGUMENTS**

Reconsideration of this application is requested. Claims 1, 3, 4 and 6-8 will be pending in the application subsequent to entry of this Amendment.

#### **Amendment to the Claims**

The claims have been amended in order to more particularly point out and distinctly claim that which applicants regard as their invention and direct them to preferred aspects of the disclosure as well as responding to the examiner's comments/suggestions/objections.

##### **(i) Claim 1**

The limitation of Claim 2 is incorporated into Claim 1. Further, the phrase "*using a plurality of air nozzles*" is incorporated into Claim 1. The basis for the amendment can be found in paragraphs [0011]<sup>1</sup>, [0013], Examples 2, 3 and 5, and the Figures.

In particular, the present specification states:

*"air nozzles, for blowing air onto the surface of the web in the chamber can be provided"* ([0011]); and

*"the hydration efficiency of paper can be increased ... by blowing air approximately at the same temperature and humidity as that within the chamber onto the cast-coated surface and the opposite surface during the passage of the web through the chamber at high temperature and humidity ..."* ([0013]).

Claim 1 is also re-formatted to set out the three separate steps.

##### **(ii) Claim 6**

The word order in Claim 6 was changed to make the claimed invention clear.

#### **Response to Claim Objection**

In the Office Action, page 2, lines 6-11, the Examiner objects to Claim 1 since the phrase "*simultaneously maintaining both sides of the cast-coated paper in air conditioned*" is not clear. To overcome this objection, applicants amended the phrase to read "*maintaining both sides of the cast-coated paper in an air which is conditioned at...*"

---

<sup>1</sup> Referred to the published version of the subject application.

In this regard, the Examiner proposes amending to "*in air conditioning*" or "*in an air conditioned chamber*," but applicants prefer the above amendment to agree with and provide antecedent basis for the last phrase of the amended Claim 1 which recites "*blowing the conditioned air onto the both sides*."

In the Office Action, page 2, lines 3-5 from the bottom, the Examiner proposes adding the limitation that the "blowers" are treating both sides. Applicants agree with the Examiner's helpful suggestion and incorporate the phrase "*using a plurality of air nozzles*" into Claim 1. The examiner will note that Claim 6 already defines this technical feature.

In addition, the Examiner objected to the term "*simultaneously*" in Claim 1 (Office Action, page 2, lines 1-3 from the bottom). The term has been deleted.

In view of the foregoing, all of the objections will be overcome.

Response to Rejection under 35 U.S.C. §103(a)

In the Office Action, the Examiner cites SMOOK (Handbook for Pulp and Paper Technologist) as a primary reference and BABINSKII (SU 1618803) as a secondary reference to deny unobviousness of the present claims.

Applicants disagree and submit that the claimed invention is not obvious over SMOOK in view of BABINSKII.

SMOOK discloses that a paper is subjected to high velocity impingement of humidified air as it passes over successive drums. In other words, in SMOOK, only **one side** of the paper is subjected to humidified air, and the other side is on the drum and not subjected to humidified air (the paragraph bridging pages 345 and 346). SMOOK does not disclose that a chamber has a plurality of air nozzles for blowing air onto both sides of the cast-coated paper. Furthermore, SMOOK does not disclose air conditioned at 20-80°C and 50-90% RH. In addition, in SMOOK, the paper is subjected to humidified air for a short time because the paper is subjected to high velocity impingement. On the other hand, in the present invention, the paper is subjected to conditioned air for a long time, 20 seconds or more.

BABINSKII discloses an air supplying chamber in Fig 1. However, BABINSKII does not disclose the use of a plurality of air nozzles for blowing air onto both sides of the cast-coated paper (*see* BABINSKII, Figure 1). In addition, BABINSKII does not describe that both sides of

the web are treated with an air jet. The DERWENT summary of BABINSKII clearly describes *"The treated material is initially cooled by the interaction of one of its sides with a working surface at 20-30 deg C and by treating the other side with jets of air at 20-30 deg. C and relative humidity of 60-80%."* It is apparent in BABINSKII that only one side of a paper is treated with air jet and that no air nozzle is used.

In addition, BABINSKII only describes that one side of a cast-coated paper is cooled using an air jet at 20-30°C, and does not describe adding moisture to the coated paper using humid air. As is clear from the fact that BABINSKII does not mention humidity of the air jet, BABINSKII uses jets of air at 20-30°C only for cooling a coated paper, not for adding moisture to a coated paper. On the other hand, the present invention comprises blowing humid air at 50-95% RH to both sides of a coated paper for adding moisture to the coated paper. BABINSKII does not describe using an air at 20-30°C and 50-95% RH.

In particular, neither SMOOK nor BABINSKII disclose the technical feature of the present invention of *"blowing the conditioned air onto the both sides of the cast-coated surface and the opposite surface using a plurality of air nozzles"* (as stated in method Claim 1) and *"said chamber has a plurality of air nozzles for blowing the conditioned air onto both sides of said web"* (as stated in apparatus Claim 6). According to this technical feature, the present invention can provide cast-coated papers having a high quality cast-coated surface with reduced waving or curling caused by moisture absorption after cutting and of a high quality (*see* paragraph [0056] of the specification).

In this regard, the Examiner stated in the Office Action, page 8, third paragraph, that BABINSKII shows that both sides of the paper are exposed to the carrying rolls thus both sides of the paper are subject to blowing air. However, as discussed above, BABINSKII does not disclose the technical feature of *"blowing the conditioned air onto the both sides of the cast-coated surface and the opposite surface using a plurality of air nozzles"* (Claim 1).

Accordingly, even if SMOOK and BABINSKII are combined, a person skilled in the art cannot arrive at the present invention of Claims 1 and 6, because neither reference discloses or suggests *"blowing the conditioned air onto the both sides of the cast-coated surface and the opposite surface using a plurality of air nozzles"* of the present invention. For the same reasons, the present invention of Claims 3, 4, 7, and 8 is not obvious over the references cited.

In the above remarks applicants have addressed the rejection directed to claims 1, 2 and 6 (claim 2 is now incorporated into claim 1, subject to entry of this Amendment). This rejection is stated in item 11 of the Official Action and is based upon the two references discussed above.

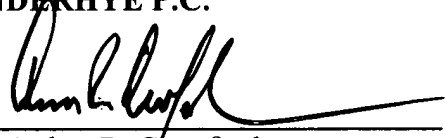
The Official Action also includes two separate rejections, item 12 directed to claims 3 and 7 and item 13 directed to claims 4 and 8. The claims here involved are dependent ones. Applicants submit that those claims depending from the independent claims are also not made obvious by the combination of the cited documents because the limitations of an independent claim are incorporated into their dependent claims. *See* MPEP §2143.03.

Reconsideration, entry of this Amendment and withdrawal of all rejections is solicited. Should the examiner require further information, please contact the undersigned.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_

  
Arthur R. Crawford  
Reg. No. 25,327

ARC:eaw  
901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100